PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION

Improvements in Mounting and Settings for Stones used in Jewellery

I, MAURICE ANTOINE, a French citizen, of 91, rue des Petits Champs, Paris (France), do hereby declare the nature of this invention to be as follows:—

This invention relates to mountings and settings for precious stones, gems or other stones used in jewellery and has more particular reference to the type of such mountings and settings wherein no portion of the visible faces of the stone or gem is masked by the setting members, so that the shining effect of the stone is not lessened and, where a series of stones thus set are arranged in contiguous relation, the continuity of their shining effects is not disturbed by conspicuous metallic portions.

The improved setting according to the invention belongs to the type comprising projections adapted to engage into grooves or notches formed in the lower or bottom portions of the stones that is to say in those portions which are hidden once the stones are set.

The invention has among its objects to facilitate the mounting and setting of the stones that is to say the insertion of the projections into the grooves to avoid breaking the stones during such insertion particularly the peripheral edges of the stones, to reduce the labour by doing away with the use of pins, solder and similar means for firmly holding the stones, and more generally to permit a strong and smart stone setting to be obtained more easily and at cheaper cost than heretofore.

The stones or gems set according to the invention may have any selected regular or irregular polygonal outlines and the mountings or settings proper may be made of any convenient material such as a suitable metal or alloy.

According to the invention viewed in a broad aspect, the lower or bottom pyramidal portion of the stone that is to say that portion which must be concealed in the mounting after the setting operation is formed on two opposite faces with two grooves or notches respectively. The locations of these grooves are offset from one face to another. The mounting for each stone comprises a series of strips or fillets arranged edgewise and so interconnected as to define an enclosure matching the contour of the stone. The fillet corresponding to the one grooved face of the stone has an integral or permanently secured bracket-line projection or lug extending inwardly of said enclosure for being engaged into the adjacent groove in the stone. The fillet corresponding to the opposite grooved face of the stone is formed with transverse cuts or nicks so that the portion of this fillet comprised between the cuts may be bent inwardly of the enclosure, after the stone has already been partly set by its other face, for constituting a tongue which is then engaged into the adjacent groove in the stone.

Each of the grooves and each of the projections (bracket-like projection and tongue-like projection) may be of any suitable size to properly hold the stone and may be subdivided into several grooves or projections as the case may be.

Where, as this is most frequently the case, a series of stones are disposed in contiguous or clustered arrangement, the assembly of stones may be encompassed inside the periphery of a box-like casing and the strips or fillets having the projections as aforesaid may be constituted by small partitions dividing the said casing into a number of cells equal to that of the stones and having contours matching the sectional areas of the stones on the line of their peripheral edges. The brink of such a casing must extend upwardly beyond the level of the top edge surfaces of the fillets or partitions so that the said brink may be folded, bent or swaged over the marginal portions of the stones. Owing to this arrangement, once all the stones have been set as above-described, no fillet is visible and the stones are disposed after the fashion of contiguous pavements inside the casing which may be shaped or adorned to match their general appearance.

In an embodiment of the invention and assuming for instance a series of rectangular or square stones to be set by the present method, each stone-receiving cell is defined by four fillets. Two opposite fillets have plain edges while the other two fillets are respectively formed with

[*Price* 1/-]

one or more bracket-like projections, ears or lugs extending from their top edge inwardly of the cell and with one or more portions defined between cuts formed in their top edge and staggered with respect to said projections and intended to be bent in to form holding tongues engageable into the adjacent groove or grooves in the stone.

In a suitable constructional form, the bracket-like projections or lugs may be located in or adjacent the ends of one side fillet of the quadrangular cell for being set or engaged into notches or grooves cut into the stone astride two edges of its lower pyramidal portion. The portion in the opposite side fillet of the cell which is comprised between two cuts and is adapted to be bent in so as to form a holding tongue is formed intermediate the ends of this fillet so as to be offset relatively to the end holding brackets on the opposite side. The holding tongue is adapted to be set or engaged into a groove or notch provided in the adjacent face of the lower pyramidal portion of the stone.

The engagement of the bracket-line projections or lugs secured to one fillet into the grooves or notches which must receive them is effected quite easily. The operation of bending in the cut portion of the opposite fillet for producing a tongue and engaging the latter into the groove or notch can be effected very easily also and without breaking or damaging the stone, by means of any suitable tool such as a scauper or the like.

As above-stated, each bracket and each tongue as well as the corresponding grooves or notches in the stone may be subdivided. However, for current stone setting practice, it is sufficient to hold a square or rectangular stone by three points offset with respect to one another, namely two points on one side (on one fillet) and another point on the opposite side (on the other fillet) as a stone thus set can neither shake nor become disengaged.

As the bracket-like projections may be easily formed for example cast integral with one fillet and as the cuts in the opposite fillet may be easily produced, it will be appreciated that each stone may be readily set into its cell with a minimum of labour and that the bending of the cut-defined portion of the fillet into tongue form and the engagement of the latter into the stone groove is also easy to perform and does not risk to break the stone edge since the latter never comes into contact with a portion capable of injuring it. Extraneous securing means such as pins or solder are also avoided.

Dated this 4th day of February, 1937.

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COMPLETE SPECIFICATION

Improvements in Mounting and Settings for Stones used in Jewellery

I, MAURICE ANTOINE, a French citizen, of 91, rue des Petits Champs, Paris (France), do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to mounting and settings for precious stones, gems or other stones used in jewellery, and has more particular reference to the kind of such mounting and settings wherein no portion of the visible faces of any stone or gem or stones or gems which is or are not contiguous to the outer casing surrounding a "pavement" of stones is or are masked by the setting members, so that the shining effect of the stones is not lessened and, where a series of stones thus set are arranged in contiguous relation, the continuity of their shining effects is not disturbed by visible metallic portions.

The improved setting according to the invention belongs to the type provided with projections on rails, partitions or like holding members and adapted to engage into grooves or notches formed in the lower or bottom portions of the stones, that is to say, in those portions underneath the stone edges or girdles which are hidden once the stone is set.

The invention has among its objects to facilitate the mounting and setting of the stones, by making easier the insertion of the projections into the grooves or notches, by avoiding breaking the stones during such insertion particularly the peripheral edges or girdles of the stones, by reducing the labour involved, by doing away with the use of separate pins, rails, keys, spindles and similar means for firmly holding the stones, and more generally to permit a strong and smart stone setting to be obtained more easily and at cheaper cost than heretofore.

According to the invention, there is provided an improved mounting or setting for stones as used in jewellery,

wherein the lower pyramidal portions of at least those stones which are not contiguous to the outer casing are formed each with a groove extending between two adjacent corners and with two notches each extending across another corner, such notches each being adapted to receive one of two projections, which projections are formed integrally with or permanently secured to strips or fillets interconnected as to form stone-receiving cells and are adapted to project inwardly of each cell so formed, whilst another projection, comprising a tongue provided on another fillet for instance by cuts, is bent inwardly of the cell to engage the groove in the stone which is already held by the engagement of the said projections in the notches.

The projections may be divided by cuts or notches into several projections. The brink of the casing extends upwardly above the level of the top edges of the strips or fillets so that the said brink may be folded, bent or swaged over the marginal portions of the stones in the usual way. Owing to this arrangement, once all the stones have been set no fillet is visible and the stones are disposed after the fashion of a continuous pavement inside the casing which may be shaped or adorned as desired.

In order that the invention may be more readily understood and carried into practice, it will now be described in detail with reference to the accompanying drawings wherein is shown by way of example a preferred embodiment of the same.

Figure 1 is a plan view showing the lower pyramidal portion of a stone having one groove on a side extending between two adjacent corners and two notches each extending across another corner.

Figure 2 is a perspective view showing a box-like casing divided into nine stone-receiving cells by small crossed strips or fillets arranged edgewise.

Figure 3 is a perspective view showing a stone in dotted line and the setting means engaged into the groove and one of the notches provided in the stone.

Figure 4 is an elevational view showing a pair of stones juxtaposed edge to edge and held by the setting means.

Figure 5 is a view similar to Figure 2 illustrating with the aid of chain line arrows how the stones are inserted into the respective cells, the partitions delineating the cells not being shown for the sake of clearness.

In the example shown in the drawings, each stone c has a lower portion a in the shape of a square pyramid in which are formed or cut, at a suitable distance from the stone edge b, two notches d and e each extending across a corner and a straight transverse groove f extending between two adjacent corners of the pyramid a.

The box-like casing g shown in Figure 2 is of quadrangular shape and is divided by small strips or fillets h into nine cells i each of which is adapted to receive a stone having a lower portion in the shape of a square pyramid.

The nine stones received in the nine cells i of the casing g constitute a so-called "pavement" and it will be observed from the continuation of this description that in this embodiment only the centre stone is mounted by the invisible setting means. It will be appreciated that Figures 2 and 5 only show a simple embodiment of the invention. Where, for instance, the casing is divided into forty nine cells such as i, there would be twenty four "border stones" which would be partly set by swaging the brink of the casing g over their marginal portions, whereas the remaining twenty five "centre stones" would be set by the invisible means as is the centre stone in Figures 2 and 5. The showing of these figures should be regarded therefore as illustrative but not limitative.

The upper edges of the strips or fillets h are situated at a lower level than the brink of the casing g in order to permit the said brink to be bent, folded or swaged over the marginal portion of the contiguous stones. The small arrows in full lines in Figures 2 and 5 show how this swaging operation is performed according to the usual practice followed in setting stones. Thus, the edge stones may be introduced into the respective cells i as shown by the chain-line arrows in Figure 5 and are held by swaging the brink of the casing over their adjacent edges by engaging one or more notches such as d or e over one or more projections such as j.

At their crossing points, the strips or fillets h are cut out to accommodate small plates j securely held in position, for instance soldered to the partitions. Such plates j form projections which are engaged into the notches d, e. For each "centre stone", a portion of each of two plates j is cut off on one side as shown at k so that not more than two projections extend into any one cell in order to provide the necessary accommodation for the stone angles adjacent the groove f. The portion l of the fillet h which, as shown, extends intermediate the cuts k forms a tongue which is adapted to be

hammered or otherwise bent into the groove *f*. The engagement of the tongue *l* into the groove *f* can be effected very easily and without breaking or damaging the stone, by means of any suitable tool.

Each plate *j* and each tongue *l* may be divided by cuts or notches.

As will be seen from Figure 4, the plates *j* and the fillets or partitions *h* are entirely covered and concealed by the peripheral edges *b* of the stones whose upper portions only remain visible. The invention avoids the necessity of so mounting the stones that their contiguous edges overlap, whereby practically the full shining surface of each stone may used.

It will be appreciated that each stone can be readily set into its cell with a minimum of labour and that the bending of the tongues *l* at a suitable angle to the general planes of the fillets or partitions *h* and their engagement into the grooves *f* are also easy to perform and avoid the risk of breaking the edges of the stone since the latter never come into contact with a part capable of injuring them Extraneous separate securing means such as pins or spindles are entirely avoided.

The stones or gems may have any desired regular or irregular polygonal outlines and the mounting or settings proper may be made of any convenient material such as a suitable metal or alloy.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A mounting or setting for stones as used in jewellery, wherein the lower pyramidal portions of at least those stones which are not contiguous to the outer casing are formed each with a groove extending between two adjacent corners and with two notches each extending across another corner, such notches each being adapted to receive one of two projections, which projections are formed integrally with or permanently secured to strips or fillets interconnected as to form stone-receiving cells and are adapted to project inwardly of each cell so formed, whilst another projection, comprising a tongue provided on another fillet, for instance by cuts, is bent inwardly of the cell to engage the groove in the stone which is already held by the engagement of the said projections in the notches.

2. A stone mounting or setting according to Claim 1, wherein one or more of the projections are divided by cuts or notches.

3. A stone mounting or setting according to any of the preceding Claims wherein at each crossing point the strips or fillets are cut out to accommodate small plates which project into the neighbouring cells to provide the projections adapted to engage the notches in the stones, of which plates some are cut off so that not more than two projections extend into any one cell when those portions of the strips or fillets between the cuts of said plates constitute the tongues which are bent and set into grooves in the stones.

4. A stone mounting or setting according to any of the preceding Claims, wherein the brink of the casing which surrounds the assembly of set stones is at higher level than the upper edge of the strips or fillets, whereby said brink can be folded, bent or swaged in known manner over the marginal portions of the contiguous stones.

5. A mounting or setting for stones used in jewellery, substantially as hereinbefore described and as shown in the accompanying drawing.

Dated this 5th day of February, 1938.

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498,471 PROVISIONAL SPECIFICATION

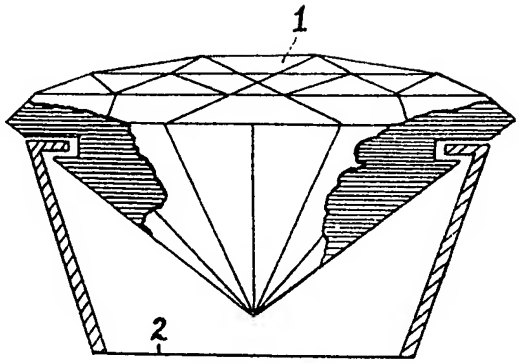

Fig. 1.

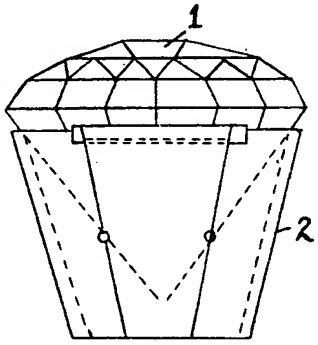

Fig. 2.

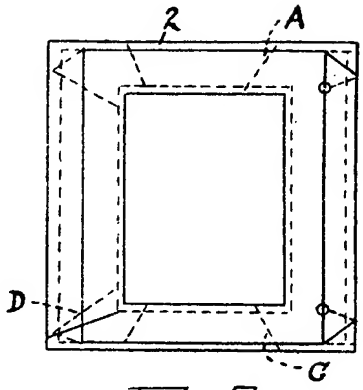

Fig. 3.

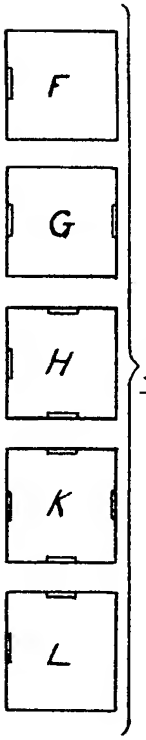

Fig 4.

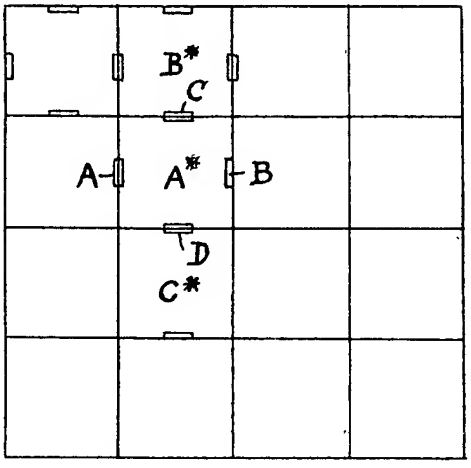

Fig. 5.